DOCUMENT RESUME

ED 399 662 EA 027 918

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TITLE The Talent Development High School. Essential Components. Report No. 1.
INSTITUTION Center for Research on the Education of Students Placed At Risk, Baltimore, MD.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE Sep 96
CONTRACT R117D40005
NOTE 46p.; For the second report, see EA 027 919.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Academic Achievement; College Preparation; Core Curriculum; *Educational Environment; *High Risk Students; *High Schools; *Nontraditional Education; *School Organization; Standards; Student Motivation; *Talent Development; Teacher Role; Teacher Student Ratio

ABSTRACT

The Talent Development Model for high schools was developed to fill a major current void in American education--the lack of a proven model of high school effectiveness. This report presents the essential components of the Talent Development High School, a model of changes in high school organization, curriculum, and instruction based on research on student motivation and teacher commitment. Part 1 of the report describes the components of the model, which emphasizes: (1) a college preparatory core curriculum based on high standards; and (2) a learning environment that incorporates four sources of student motivation--relevance of school work, a caring and supportive human environment, opportunities for academic success, and help with personal problems. Part 2, which comprises about 75% of the report, describes the research base from which the model was derived. (Contains 99 references.) (LMI)

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ED 399 662

CRESPAR

THE TALENT DEVELOPMENT HIGH SCHOOL

Essential Components

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James M. McPartland
Donna Penn Towns

Report No. 1 / September 1996

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CENTER FOR RESEARCH ON THE EDUCATION OF STUDENTS PLACED AT RISK

Johns Hopkins University & Howard University

EA 027 918

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Published by the Center for Research on the Education of Students Placed At Risk (CRESPAR), supported as a national research and development center by funds from the Office of Educational Research and Improvement, U. S. Department of Education (R-117-D40005). The opinions expressed in this publication do not necessarily reflect the position or policy of OERI, and no official endorsement should be inferred.

The Center

Every child has the capacity to succeed in school and in life. Yet far too many children, especially those from poor and minority families, are placed at risk by school practices that are based on a sorting paradigm in which some students receive high-expectations instruction while the rest are relegated to lower quality education and lower quality futures. The sorting perspective must be replaced by a "talent development" model that asserts that all children are capable of succeeding in a rich and demanding curriculum with appropriate assistance and support.

The mission of the Center for Research on the Education of Students Placed at Risk (CRESPAR) is to conduct the research, development, evaluation, and dissemination needed to transform schooling for students placed at risk. The work of the Center is guided by three central themes — ensuring the success of all students at key development points, building on students' personal and cultural assets, and scaling up effective programs — and conducted through seven research and development programs and a program of institutional activities.

CRESPAR is organized as a partnership of Johns Hopkins University and Howard University, in collaboration with researchers at the University of California at Santa Barbara, the University of California at Los Angeles, University of Oklahoma, University of Chicago, Manpower Research Demonstration Corporation, WestEd Regional Laboratory, University of Memphis, and University of Houston-Clear Lake.

Abstract

This report presents the essential components of the Talent Development High School, which is a comprehensive model of changes in high school organization, curriculum, and instruction based upon research on student motivation and teacher commitment. Part I describes the components of the model, which emphasizes (1) a college preparatory core curriculum based on high standards, and (2) a learning environment that incorporates four sources of student motivation: relevance of schoolwork, a caring and supportive human environment, opportunities for academic success, and help with personal problems. Part II describes the research base from which the model was derived.

I. The Essential Components

The Talent Development Model for high schools was developed to fill a major current void in American education — the lack of a proven model of high school effectiveness. This includes organization, curriculum, and instruction that will enable students placed at risk to achieve academic success, graduation, further education, and success in later life.

Most existing popular reform movements, especially for high schools, focus more on the *processes* of change than on the *content* of an improved school. Most provide principles of effective education and mechanisms for activating local energies to create and support change; however they provide little practical guidance on what the reformed high school should look like — its organization, social relations, curriculum and instruction. Consequently, there has been little consistency in specific school changes that have been developed by schools using these approaches. No clear blueprint has been offered for specific reforms in the organizational arrangements and daily operations needed to achieve their principles of effective education.

Similarly, current ideas to change the external incentives for reforms provide impetus for change, but little guidance on the details of specific changes. For example, two efforts that may motivate schools to seek change are (1) efforts to provide parental choice in order to direct market forces at ineffective schools, and (2) efforts by the states to get schools to develop new classroom lessons that prepare students for new state performance assessments. However, neither are very helpful to high school improvement teams that seek to make specific comprehensive changes that will attract students and produce higher order learning outcomes.

The Talent Development Model provides a comprehensive package of specific high school changes for students placed at risk. It is based upon research on student motivation and teacher commitment. It can be reliably implemented with adaptations to meet local circumstances. The Talent Development High School is based on research about the two key elements of an effective school: (1) the curriculum and (2) the learning environment.

Talent Development Curriculum

Research is clear that student learning is maximized by a common core curriculum of high standards for all students. This means all students take college-preparatory courses in the major subjects — English, mathematics, science, and history/social studies. Separate program tracks of College Prep, General, and Vocational-Business which have been characteristic of America's comprehensive high schools, are eliminated. They are replaced by a single common

academic program of demanding courses for all students. For example, all students take a core sequence of courses in mathematics (e.g., algebra, probability and statistics, geometry and trigonometry, and pre-calculus), with no substitutes of business math or other watered-down courses. Similarly, a standard common core of courses is offered for all in other major subjects.

Numerous studies have shown that all students reach higher academic achievements when they are given the opportunity to learn demanding course content. The majority of research studies (see McPartland & Schneider, 1994, for a review), indicate that student test scores are higher when the course content includes more demanding curriculum topics and challenging instructional activities.

Thus, the Talent Development High School begins with a college-preparatory curriculum for all students. It sets high standards, orients students toward continued education after high school, and provides exposure to demanding curriculum content and learning activities. But, this core curriculum must be embedded in a learning environment in which all students are motivated to work hard at their demanding courses and in which teachers can meet the needs of the diverse students who attend most non-selective comprehensive high schools.

Talent Development Learning Environment

Research on high school student motivation and teacher effectiveness has identified four broad components of the Talent Development learning environment. Each of these components is problematic in most existing American comprehensive high schools. In identifying these components, we reviewed research on why many students who drop out feel negative about their high school experiences, and tied these findings to general principles of student motivation. We also reviewed qualitative case studies of innovative high schools for common factors that seem to get students engaged with school life and teachers committed to high expectations for their school. The four learning environment components that emerged from this research are: Relevance of Schoolwork, A Caring and Supportive Human Environment, Opportunities for Academic Success, and Help with Personal Problems. In Part II, we describe the review of research and school practices and structures that produced these components.

Relevance of Schoolwork — Providing a Career Focus

Many students are truly bored with what they do in high school and see no long-term worth in what they are expected to learn. They get little satisfaction or sense of accomplishment from their learning assignments. Moreover, they see no direct connection

between the content of their courses and their current interests or their future goals. In terms of motivation theory, students draw *no* intrinsic satisfaction from their learning activities and see no instrumental value of their schoolwork for their lives or futures.

The Talent Development High School reorganizes schoolwork around several broad career themes. It provides students with a choice of one of several career academies in which they spend their last three years of high school. The themes of the career academies are developed by the school's faculty, based upon strengths and interests of the teaching staff, actual job opportunities and trends, coverage of broad career categories (such as students' interest in "data, people, things, or ideas" or students' competencies in major occupational typologies), and external finding from corporate and government entities.

Students are prepared for their academy choice in the ninth grade through standardized interest inventories that provide information on the students' strengths and occupational personalities, through course units on occupational types and pathways, and through presentations and discussions from faculty in each career academy option.

The career academy themes give focus to a student's high school program by encouraging student career planning and tying curriculum content to each student's career plans. Giving students their own choice of an academy for their upper level high school program promotes a higher level of student commitment to the academy's standards and requirements. First, the choice is likely to reflect actual student interest in the program; second, the act of choosing itself strengthens student commitment.

Besides increasing students' instrumental motivation and personal commitments through career academies that relate to their schoolwork, providing courses that address real world problems and require practical applications should also increase students' intrinsic motivation toward schoolwork. Classroom projects should have more coherence and closure and provide learning activities that get students more personally and actively involved. Greater intrinsic satisfaction in each task should be derived from the sense of purpose and accomplishment reflected in the practical and applied lessons of each career academy curriculum. The career academies use employer advisory boards to develop a curriculum of elective courses, internship learning opportunities, and basic academic courses that blend career academy themes into their learning activities and applications.

A Caring and Supportive Human Environment

Many students who drop out of high school never connect in a personal way with their teachers and administrators as adults who care about their success and look out for their interests. Rather than feeling attached to a human community at their school, these students

and their peer group often feel estranged from most of the school adults and authority figures. They do not like their teachers and administrators and believe the feeling is mutual. The absence of teachers who know them well and are seen to be on their side is a source of student alienation, which is frequently given as a cause of dropping out. It also deprives students of the social motivation to please valued teachers by working hard at learning tasks to gain rewards and recognition from them. Students who feel unknown or put down by most teachers will not care about putting forth effort to satisfactorily complete their assignments.

School size is one of the major reasons for the absence of positive teacher-student relations. In the typical large high school, each teacher has too many students to get to know any of them well; each student has too many teachers to get to know any of them well. Large high schools, with departmentalized staffing, also have difficulties in maintaining an appropriate disciplinary climate. Student behavior in halls and stairways can regularly be unruly — for example, groups of students who should be in class wander the halls and loiter in the stairways. Teachers are ineffective in correcting students whose proper names and whereabouts are often unknown to them. Teachers are demoralized when they have to close their classroom doors and cover their windows to block out the noise and confusion in the hallways. Generally, the climate in these situations delivers the message that the school is a social meeting place or playground, rather than a serious place for learning and high expectations.

The Talent Development High School creates conditions for close positive teacher-student relations and for an orderly academic climate. First, the physical areas for human encounters are limited in size with fixed boundaries. Each career academy has its own part of the school building, with a separate entrance and stairway areas with prominent academy signs. Students and their teachers are restricted to areas where they are familiar to one another and share a common academy identity. No place exists where all or most of the entire student body passes at the same time on a daily basis. The maximum size of each career academy is 300-350 students and the maximum size of ninth grade teams is 150-180 students. Thus, teachers and students interact with individuals who are known by name. Anonymity, which leads to a disruptive disciplinary climate, is removed. Teachers and students who know one another are also more likely to develop friendly relationships and shared goals.

Second, a four-period day replaces the previous six- or seven-period day, providing longer classes for more in-depth instruction and requiring fewer adult-student relationships during the term. Teachers now need to get to know fewer different students (about 90 individuals); they are teaching three longer classes rather than five or six shorter classes. Likewise, students change classes fewer times during the day, which both limits the total time for the hall passing and narrows the number of different teachers they are dealing with in class.

This should result in better mutual personal knowledge between teacher and student and allow fewer opportunities for disciplinary problems.

Third, special adult advisory and advocacy relationships are established. Each student has access to a specific caring and problem-solving adult who serves as that student's point of contact in the school. In the ninth grade academy, which is often much larger than any upper level career academy, several interdisciplinary teams of teachers are formed, each of which shares the same block-scheduled group of students. Teams include a homeroom teacher who has the first period with each class, plus three other teachers who share the same daily planning period, during which they address student and team problems. In the upper level academies, each teacher is given a homeroom group of tenth, eleventh and twelfth graders that meets daily and that remains intact for each student's remaining years in high school. These homeroom teachers function in advisory and advocacy modes for their individual students as they face problems or decisions across the upper high school grades.

Fourth, modifications are made in teacher roles and responsibilities to foster more positive teacher-student relations around shared academic goals. Teachers and students often experience conflict about academic standards and classroom discipline. This is created in part by teachers' responsibilities to set criteria for students' evaluations and to grade their performances. Following the recent recommendations of sociologist James S. Coleman, the Talent Development High School seeks to shift the role of the teacher from evaluator to coach. External departmental exams, not constructed by any single teacher, are used as a major criteria for student grades in each course. Teachers and students know the content of these important exams is not open to debate or modification; thus student pressure on teachers to weaken standards shifts to a demand for optimum assistance in exam preparation. If teachers are also being judged by public recognition for high achieving classes, the stage is set for positive teacher-student relations aimed at a common demanding academic goal.

Opportunities for Academic Success

Most students who leave school before graduation are failing at schoolwork and are overage — a result of having been left back to repeat one or more grades. Being left back in high school is especially damaging to a student's chances of graduation, whether or not the student has repeated a grade in earlier levels.

There is a regular progression in the process of student dropout: (1) course failures; (2) being left back to repeat a grade, (3) increased student discouragement and alienation from school, and (4) dropping out. This unfortunate progression most often occurs in the ninth grade and usually is accompanied by poor daily attendance. Thus, dropouts can be

greatly reduced if new ways can be found to help more students successfully transgress the ninth grade with enough earned credits to move directly on to the tenth grade. In the Talent Development High School this means increasing opportunities for academic success in four ways: (1) concentrate on improved student attendance, (2) find ways to give extra academic help when needed, (3) provide recognition for student improvement as well as achievement to retain the motivation of those who start out behind, and (4) provide ways for students to recover from poor attendance or early failures and earn course credits for promotion.

Better attendance. Students will improve their attendance if the school makes attendance a recognized priority and reaches out in a personal way to students when they begin to have attendance problems. Relatedly, the instructional program must be made interesting and involving for all students.

Students in their first year of high school need to understand that rules for academic success now differ from middle school. Credits are now needed for promotion; they must be earned by passing courses that require good attendance as a minimum standard. This message is delivered regularly in the Talent Development school.

Students who may have had poor attendance in earlier grades need to be personally helped to make good attendance their behavior in high school. Research shows that persistent personal phone calls from teachers to individual students who are missing too much school can make a significant difference in shaping new behavior. In the Talent Development schools, personal calls to the home are addressed at first to the student (not the parent) to deliver an initial message of positive outreach rather than punitive sanctions. Teacher team members in the ninth grade and teacher advisors in the upper grades make these calls.

Having an instructional program that is attractive and engaging to students is the ultimate source of producing good student attendance. Talent Development schools strive for this through the career foci of their curriculum and through classroom activities that stress active learning and problem solving applications. Because improvement in classroom instruction is a major and continuing undertaking, the other more direct attacks on student absenteeism should be implemented first in the Talent Development school's approach.

Extra academic help. Some students will need more time or more intensive assistance to achieve competency in their courses. The Talent Development High School should be flexible in its use of various resources to meet the diversity of student needs. Approaches include the use of coaching classes (before or after regular school hours), peer tutoring via cooperative learning activities (in the regular classroom or as pullout activities), and remedial computer drill and practice (during or outside of the regular school day).

Scheduling smaller classes or longer periods for students who are most far behind can sometimes be effective; however the school must avoid setting up tracked classes that take students away from the core curriculum of the Talent Development school. As long as the curriculum retains the same demanding content and high standards, flexible scheduling of the duration and size of classes should not be a major problem. For example, "double doses" of time in demanding mathematics courses for the most needy students seems to have worked well in some middle schools.

Recognition for improvement. Students who begin a course far behind in prior preparation will need extra encouragement to stay motivated to strive for high standards. The Talent Development High School uses a modified report card. It gives credit for both *achievement* measured according to general standardized criteria and *improvement* measured according to a student's own starting point. For example, a student who gains five points in achievement from the previous quarter would get an improvement grade of 85, with larger gains getting higher improvement grades. The quarterly grade combines the achievement and improvement grades, with achievement weighted twice as much as improvement. The final course grade is based on quarterly grades and semester exams.

The goal is to keep all students highly motivated to work for good grades, even those who do not do well at the beginning of the term. Some teachers have their students keep track of their own progress and calculate their own improvement grades, as a way of encouraging students to see their opportunities for academic success as the term progresses.

Recovery methods. The Talent Development High School gives students who do not at first succeed another chance to earn passing grades or to earn course credits, but at some extra cost to encourage good first efforts.

Attendance recovery methods give students another chance who would otherwise fail due to absences early in the term. Students who have five or more absences per quarter will receive an automatic failing grade. This policy encourages attendance. But, to prevent students who have excessive early absences from giving up, The Talent Development School allows students with perfect attendance for five days in a row to erase one of their earlier absences.

Failure recovery methods give students a chance to retake a course they have failed either at Summer School, Saturday School, or Credit School, which is held for an extra hour after the end of the school day. There is a financial cost ($20 for a Credit School course) and the course is retaken on the student's own time. But these options give students the opportunity to make up a credit needed for promotion to the next grade.

Mid-year promotions can also be achieved in the Talent Development School. Students who have been left back to repeat a grade can earn their missing credits during the first 18-week term of their next year and move back onto their appropriate grade level.

Help with Personal Problems

Many students are at risk of school failure and dropping out because of problems external to the school that create barriers to or serious distractions from their school attendance and success. These include substance abuse, family problems, employment needs, and disciplinary problems with school authorities. The Talent Development High School provides assistance to students from social workers and mental health professionals on the school staff and by referrals to an alternative after-hours school in the building.

The alternative school — "Twilight School" — is designed to meet the needs of students who present the most difficult disciplinary problems. The school holds classes in the basic academic subjects with a small student-teacher ratio (10 to 1). It also includes classes to provide students with coping skills to manage their behavior and relate well to school authorities and regulations. Twilight School meets daily for three hours after the regular school schedule has ended. Attendance is temporary — the school prepares troubled students to return to the regular school or continue their education at another part-time or GED location.

The Talent Development High School As a National Model

Research indicates that a fully implemented Talent Development High School would be a powerful improvement over current practice. It addresses the key shortcomings of curriculum and learning environment that lead to poor student motivation and restricted achievement. Such an explicit comprehensive model for reforming high schools that serve students placed at risk is not now reflected in the typical reform movements that emphasize the change process and outcome goals but not the content of the new high school.

CRESPAR intends to help implement and evaluate the Talent Development Model in several large non-selective high schools serving poor and minority youth. We seek to demonstrate that these schools can be successful and to provide practical guidelines and materials so that other schools throughout the nation can follow the Talent Development Model. The first Talent Development site opened at Patterson High School in Baltimore in September, 1995. (CRESPAR Report No. 2 reports on the early results.) Five additional sites are in the planning stage and will be opened in September, 1996 in Baltimore and Washington. In each case, a careful evaluation design will be used to measure the degree of implementation and the impact on school climate, student learning, and teacher commitment of the Talent Development Model. From this work, CRESPAR expects to provide the nation with a practical and powerful model that will bring an effective curriculum and learning environment to high school students now placed at risk.

II. Research Base for the Talent Development High School Components

Braddock & McPartland (1993) conducted a review of research to define a framework of four basic motivational components that all students need in their schools. They analyzed how students placed at risk often face barriers in each component because their schools fail to address the special circumstances of their economic, family, community, and minority status. We examine and expand upon these motivational sources and describe how high schools can address each through changes in school organization, curriculum, and instructional practice. We also describe research and development activities that have supported such school improvements. The research on the framework and the development of processes and practices that support it form the basis for the Talent Development High School and its components.

All students need these four sources of motivation to work hard at learning tasks: relevance of schoolwork, a caring and supportive human environment, opportunities for academic success, and help with personal problems.

Relevance of Schoolwork

Students must believe that schoolwork makes sense for their current and long-term welfare. The classroom tasks should be intrinsically motivating to students by being inherently interesting or by directly relating to students' current interests. Students' courses should be instrumentally motivating by being obviously related to preparation for future goals and aspirations.

For several reasons, at-risk students are likely to find their high schoolwork to be dull and boring. They have difficulty in seeing connections between schoolwork and their own future. Because these students are often behind their age-mates in basic skills, they are frequently assigned to lower track classes that concentrate on repetitive drills and practice activities. These are far less intrinsically interesting than higher order learning tasks found in the upper tracks attended by students from more advantaged backgrounds (Goodlad, 1983; Oakes, 1985; Braddock, 1990; Oakes & Lipton, 1990).

Students from race or ethnic minority backgrounds are also less likely to see models from their own cultural heritages in learning materials. This weakens the personal interest they might otherwise find in classwork. At the same time, the context of schooling and classroom instruction is often unresponsive to at-risk students' prevailing cultural experiences (Boykin, 1994). Qualitative studies of African-American male youth suggest that some disadvantaged minorities are put off by the majority culture dominance of their school curriculum. They also

must overcome powerful peer pressures not to excel at academic schoolwork (Ogbu, 1985; Fordham & Ogbu, 1986).

Students placed at risk also will be less confident about going on to college, because the costs may seem prohibitive for their family budgets. There may also be no family history of college attendance, so they may lose the strong motivation to work hard for good grades that drives more advantaged students to plan to apply to college. Similarly, at-risk students (who see high levels of adult unemployment in their community) or minority group students (who believe they will confront employment discrimination) will have greater difficulty in believing that working hard in school will pay off for them with good jobs later in life.

Besides reforming classroom activities to make them of more intrinsic interest for all students, schools should activate the instrumental motivation of students. This can be facilitated through activities and schoolwork that are directly tied to long-term goals. High school students who are unsure about going on to college have an especially difficult time in seeing the connection between schoolwork and their future (William T. Grant Foundation, 1988). School curriculum often makes little sense to them as something useful for later life. They fail to see how doing well in school will make much difference in getting a good job (Bishop, 1989). New ideas have been developed about reinforcing the connection between education and work. These include school programs that blend career and academic studies and methods to make school records represent a wide range of accomplishments useful in the employment process. While some at-risk youth may benefit from these new directions, changes to make attendance at four-year college accessible to more students and to ensure early awareness of these opportunities are also important.

New Curriculum and Pedagogy

A number of major reforms are aimed at making the classroom learning environment much more invigorating for all students. Previous emphasis on drill and practice of facts and formulas to pass multiple choice tests can be replaced by learning experiences and testing methods based on higher order learning competencies. These include comprehension skills in reading, problem-solving abilities in mathematics, critical-thinking skills in social studies, and reasoning-with-evidence abilities in science (Resnick, 1987). Previous classroom routines of teacher-lecture and student-listen can be replaced by learning activities in which students take initiative and play an active role (Sizer, 1989). Previous dependence on classwork and projects in which students work on their own and compete for good grades can be transformed into cooperative learning approaches where students work in teams to help one another achieve learning goals (Johnson & Johnson, 1987; Slavin, 1990).

Curriculum that rarely uses minority group examples in basic courses and that relegates information on minority group members' contributions to American life into separate curriculum units can be replaced. We can provide course content that minority students can relate to personally and which covers more diverse sources of the American culture and traditions we all share.

The new emphasis on higher order learning, still in early stages of implementation, is closely tied to developments in testing methods and policies that have important implications for students placed at risk. Curriculum is often strongly influenced by the tests that districts and states require for student progress and use to evaluate program effectiveness. There has been concern that the use of minimum competency tests aimed at basic requirements was driving instruction to low expectations and to excessive drill and practice on rudimentary skills for all students (Resnick & Resnick, 1985). Some states, such as Connecticut, Kentucky, and Maryland, have taken the lead in developing new ways to test higher order skills in the major subject areas through portfolio and performance assessments. Eventually, the multiple choice formats that require recall of isolated facts or formulas should be replaced. This work, however, is being conducted primarily at lower and middle grade levels, with the high school as yet relatively unaffected.

It is a reasonable guess that some combination of minimum competency and higher order assessments will be used at key points in the sequence from elementary grades to high school completion. Consequences exist for student progress and credentials at different stages. The danger is that many at-risk students will be deprived of access to higher order learning environments. Instead, they will continue to fall below the cutoff point on minimum competency tests and be assigned to follow-up classes that repeat instruction in these basic skills. Cutoff points will always be decided in part by the actual distribution of test scores (Shepard, 1983), and many at-risk students, because of weaker early learning environments, will always be on the lower end of the distribution. Thus tests used to channel students into different curricula will remain a constant threat to at-risk students' opportunities to benefit from higher order learning environments.

Cooperative learning, which aims to capture the power of the peer group for academic pursuits, is used extensively in the elementary grades and often in the middle grades. It has not yet been widely adopted in high schools, where student responsiveness to peer group pressures is perhaps strongest (Newmann & Thompson, 1987). Versions of cooperative learning are now available that have different potential costs and benefits for at-risk students. The use of these methods needs to be worked out in careful research and development at the middle and secondary grades. At-risk students stand to lose if cooperative learning projects degenerate into group projects where the best students do all the work, but versions are available that stress group rewards and individual accountability of each group member. Competitions for student

team recognition could also reinforce status distinctions within teams to the detriment of below average members (Cohen, 1986); however, versions of cooperative learning are available in which each team member has a good chance to individually contribute to team success. The question remains — which versions of cooperative learning are best suited to higher order learning tasks rather than drill and practice for basic skills? This has major implications for at-risk students whose prior preparation in basic skills is weak.

Some phases of the recent renewal of the movement to make the school curriculum more sensitive to minority group presence in American life, and to their historic contribution to American culture, have been controversial. Most agree on the goals of an improved curriculum that minority students can also relate to personally. Most also agree on a curriculum that is respectful of the role that minority group members have played in developing our nation and its ideals. But certain new programs to enhance the academic motivation of African-American males (Ascher, 1991), and new curricula to build pride in ancestral heritages by emphasizing non-Western phases of world history, have had strong critics (Adams, 1993; Gates, 1991; Schlesinger, 1991; Viadero, 1990). In assessing the worth of these more controversial efforts, we should be able to carefully evaluate their impacts on improving student motivation to learn and remain in school. However, some critical arguments must address value judgments about reinforcing separate subcultures or questions about historical accuracy.

Preparation for College

Middle and high school students who expect to continue onto college can more easily see the connection of current schoolwork to their future plans than those without strong college intentions. Getting good grades and taking challenging courses will have a direct payoff for college-bound students. The payoff is not at all clear for students bound for the job market after completing high school (Bishop, 1989). Many students placed at risk are not pushed by the motivation to do well in school so they can get into college. They lack confidence that college is in their future, often even when they clearly have the grades and test scores to qualify for admission. Recent studies have shown there are several factors that depress chances that at-risk students will be realistically aware of their college opportunities and will prepare themselves for college with appropriate behaviors in the middle and high school grades.

Three factors have been the targets of programs to increase opportunities for college for at-risk students: student aspirations for college, financial aid to cover college expenses, and assistance with academic preparation for college.

At-risk students have aspirations for college during middle and high school grades that are as high or higher than the average for their age-mates. There is no general problem in

student desires for further education. Even disadvantaged students' *expectations* are high at middle and early high school grades that they will go on to college (Hafner et al., 1990). Apparently the value of a college education is strongly perceived and desired by students from all social and ethnic groups in this country. But youngsters from poor families or from families with no previous college experience do not accompany their general aspirations and expectations with college preparatory information (e.g., prerequisites to qualify for different fields of study; the concrete steps necessary to get into college; ways to finance a college education). Thus, programs to simply boost the desires of at-risk students to attend college seem inadequate. When students are introduced to specific fields of study, they should simultaneously consider and be assisted with specific steps that lead to college attendance.

Many worthwhile programs have been developed to make minority students aware of careers where they have been under represented in the past. These include courses, clubs and activities related to careers in mathematics and science, such as MESA, and programs in high schools that emphasize broad industries and careers (magnet schools, Finance Academy, Macy health sciences programs). Although there have been few scientific evaluations of these approaches (Kemple & Rock, 1996), they seem to fill a need to give some at-risk students a more realistic appreciation of careers that require college study. They also provide a clearer connection between these students' current schoolwork and their future success.

The most extensive programs to open realistic college opportunities to disadvantaged youth have concerned financial aid for college. These include federal programs (e.g., Pell grants and Stafford loans) and private programs guaranteeing student aid for higher education. Recent studies have shown that these programs are often ineffective for poor and minority students for several reasons: poor information, unwieldy procedures, absence of guidance and support services, and mismatch with at-risk students' views of taking on debts. The U.S. General Accounting Office (1990a, 1990b), and Chelimsky (1991) indicate that students and parents have limited knowledge about the costs of attending different kinds of colleges and about the availability of federal student aid. Gross overestimates or underestimates of college costs are common. Moreover, students' lack of knowledge exists in middle grades and persists even as they approach high school graduation. Many students and parents believe incorrectly they are ineligible for aid. The lack of basic information cuts across all social and race/ethnic groups, with poor Hispanic families especially deprived of accurate information and knowledge. In addition, the shift of federal aid to fewer grants and more loans may also have reduced some minorities' chances of going on to college. Low-income minority students are much less likely to borrow for college than low-income whites (Miller & Hexter, 1985: 17).

College attendance for at-risk students is also the goal of a number of programs which essentially "adopt" a class, grade, or even school of students in the elementary years. They promise to pay college tuition when the students graduate from high school. Such programs

may not only offer tuition payment, but also provide advocacy and mentoring to students through the years. Although they seem successful (Berger, 1989), the actual impact of these programs is not yet well evaluated (Natriello, Pallas, & McDill, 1990).

The present application procedures for college admissions with financial aid are also highly complex and poorly timed for many disadvantaged families. Programs to provide guidance and support through the process are either unavailable or inadequate for the need. The Free Application for Federal Student Aid (FAFSA), for example, is a complex disclosure packet on family income and resources. Moreover, the deadline, in effect, expects an applicant's family to complete its tax return calculations months before the return is actually due for IRS purposes. Registering FAFSA information is just the first step in a process through which specific colleges put together aid packages for individual applicants who have been admitted to their program. Federal programs to assist at-risk students in the application processes (e.g., TRIO) are sometimes available, but have not been carefully evaluated. Congress, along with some states, is attempting to revise and simplify this process, so that students from very poor families automatically qualify for aid. They also seek to provide realistic knowledge of aid eligibility to students and families in middle grades or early high school grades.

Private programs have grown in recent years to offer at-risk students early notice of guaranteed financial aid for college and additional support in college preparation. A GAO report (1990b) found that these programs reached only a tiny fraction of needy students and had not been systematically evaluated. However, it appears that some more comprehensive programs have the potential for keeping some students in school longer during high school grades and into college.

Programs operated by the Chambers of Commerce in some cities (Boston Compact, Baltimore Commonwealth/College Bound Foundation) offer "last-dollar" guarantees for the remaining assistance needed after a college aid package has been received. They often tie the guarantees to students maintaining high grades and excellent attendance in high school. It is unclear how often these stipulations direct the aid to students who would get into college anyway without offering new realistic incentives to add more at-risk students to the college-bound group.

Early knowledge in high school about specific programs of study in college and about the realistic availability of college aid is related to eventual enrollment in postsecondary education. However, better information is only one factor (along with academic preparation and personal attitudes) for increasing the college attendance of at-risk students. But improved knowledge is clearly desirable to motivate more at-risk students to take prerequisite courses needed for specific college majors, to work hard for good grades to build a college admissions

record, and to take other useful academic and financial steps a ong the way to getting into college.

Two-year colleges may provide an alternative avenue for at-risk students to pursue higher education. The rapidly increasing tuition costs for private and public four-year colleges and the shift of federal college student aid from grants to loans may put attendance at four-year schools out of reach for more and more low economic students, if they are unwilling to take on large debts to cover the required costs. Because two-year colleges are receiving a greater share of minority students in post-secondary programs, the proportion of college degrees held by at-risk youth may decline. Few students from two-year colleges actually transfer to degree granting programs. Also, at-risk students whose goal is to pursue a two-year rather than a four-year college program may not be as motivated to work hard in high school. Entry into most two-year programs does not require the achievement of minimum high school grades or minimum test performance.

Transition to Employment

Students who will not be going on to college often find it difficult to make any direct connection between schoolwork and their future. Employers rarely if ever consider high school grades, tests, or other information in the hiring process, and most students know it (Bishop, 1989). The high school diploma may be used as an initial screening requirement for many entry level jobs, but potential dropouts know the actual credential is rarely checked. Some students may think they will later complete a high school diploma equivalency program if they really need to.

Three approaches can be identified to make schoolwork more relevant to students who enter the job market without college: (1) rewarding students in the employment process for good work in school, (2) developing new career-oriented programs in high school that produce specialized marketable skills, and (3) combining education and employment in apprenticeship arrangements tied to actual employers and career ladders.

Employers would be interested in information about many aspects of a student's behavior in school that are like behaviors required on the job. However, it is not worth their time and trouble to go after this information from current school sources. In choosing whom to hire for job openings, it would be useful for employers to know whether a candidate: (1) had a good attendance and discipline record in school (an indicator of a reliable worker), (2) was a leader or team member in school sports or clubs (an indicator of someone who works well with others), (3) excelled at certain kinds of course work (an indicator of language or computational skills and general learning abilities), and (4) had successfully completed specialized courses such as typing or technical offerings that may be directly useful to a job. Charner (1988) has

proposed creating a "job passport" or "portfolio" of such accomplishments for each high school student that could be presented at a job interview. This would give employers useful information; at the same time, it would give students a reason to see school as their "current job" and to view the habits and skills developed at school as preparation for work as well as a record to be used in seeking employment. The job passport would be a portable, official, laminated document with records of accomplishment assembled across the high school years, and names of school references to be contacted for verification or further information. Students would be encouraged to add details of their high school accomplishments that they believe demonstrate their special strengths (e.g., best course, role in school projects or activities, service to the community). They would given opportunities to practice job interviews in which they use their passport data to show their own interests and strong points.

Another approach is to reform and revitalize vocational-technical courses for students who plan to go directly into the work force after high school. Earlier research indicates that students in typical vocational programs may stay in school through high school at a higher average rate than equivalent students not in such programs. However, they often do not get jobs that use the specialized skills provided by the program (Bishop, 1989). Programs that emphasize more generic technical and work-related skills (U.S. Department of Labor, 1991) or growing careers that need specialized knowledge (health, computers) may increase the holding power of high schools and provide direct employment benefits. For example, the state of Oregon has restructured its high school program to make students choose between job training or college preparatory after tenth grade, with revitalized technical courses and special certificates of mastery. But there are problems associated with this type of approach. Newspaper accounts of the Oregon approach raise questions about stereotypes and stigmas developing with a dual-track system, about the high costs of equipping and staffing high quality technical offerings, and about the absence of job guarantees or placement assistance (Celis, 1991).

Flexible programs combining schoolwork and work-site experiences may also help at-risk students earn their high school diplomas while directly preparing for an occupational career. Dropout recovery programs give students who have left school a second chance to get a diploma, often through preparation for the GED high school equivalency test. They usually include flexible schedules so individuals can maintain paid employment or training so participants can get a better job (Rumberger, 1990). Innovative apprenticeship programs tied to the education system (similar to programs in some European countries) have recently been urged for this country (Hamilton, 1990a, b). However, it remains to be seen how many employers would participate with guaranteed career-line jobs and wages for apprentices-in-training (Hoyt, 1991). More direct assistance in the job search process by school staff (similar to practices in Japan) has also been recommended (ETS, 1990), but practical issues of staff costs and employer cooperation loom here as well.

Other useful programs include local labor market "commonwealth" and "partnership" agreements between businesses and schools to offer employment advantages (summer or part-time work and guaranteed job interviews that can lead to full-time employment) for students who maintain good school records for attendance and classwork. Much research and development is needed, however, to identify effective elements of these programs, evaluate their impact, and make them available for widespread use.

Career Academies

Career academies focus on improving students' transitions to employment by integrating academic and vocational instruction, providing work-based opportunities for students, and preparing students for postsecondary education, or employment, or both. Kemple & Rock (1996), in an evaluation study of ten implementing sites, point out that the career academy, by forming a school-within-a-school, initiates other worthwhile reforms. The career academy component of the high school is smaller and more personalized, teachers are provided with more influence over their work through decentralized management, and teachers engage in interdisciplinary curriculum development.

Stern, Raby, & Dayton (1992) reviewed evaluations of career academy programs and found effects on student performance, dropout prevention, and college attendance. They caution, however, that none of the evaluations used a true experimental random-assignment procedure. In their study, however, Kemple & Rock (1996) have been able to apply a random assignment research design; thus far, they have found that all ten of their sites were effectively implementing the career academy components with adaptations according to local needs and circumstances. The academies were attracting diverse students and maintaining their enrollments. They also found evidence that, due to the structural changes created by the academies, the academy teachers were more likely than other teachers to see their environment as a learning community and more likely to develop personalized relationships with their students. In later studies, the researchers will be examining effects of the academies on student outcomes.

The career academy model, however, is almost always a school-within-a-school program that benefits only those students who select the program. In Kemple & Rock's ten sites, the academies typically served 30 to 60 students per grade in grades 9 through 12 or 10 through 12. Thus only small numbers of the students and teachers in these high schools could participate and benefit. Also, the school-within-a-school structure, although advocated by many researchers examining the effects of high school restructuring and school size (Lee & Smith, 1995), can create "us versus them" divisions between school staff, with those who are

not part of the structure feeling that they are losing out on resources and recognition (Herman & Stringfield, 1995).

It is possible, however, to extend the career-focus and restructuring benefits of the Career Academy model to the entire high school. This can be accomplished by dividing the entire high school into a set of career academies that serve all students, and which students select themselves into after ninth grade. This is the model we have chosen for the Talent Development High School. Students attend a separate, small, and personalized "Success Academy" in the ninth grade, then select themseives into one of a set of career academies for grades 10 through 12.

Grubb (1995) notes that this structure can achieve the benefits that an individual career academy in a high school achieves, but for much larger numbers of students — ideally, all students in the school. He describes four high schools that have organized themselves to allow students to choose and follow a career "cluster, major, or pathway" that structures some or all of their high school programs. There are substantial variations among these schools in academic orientation, types of clusters, specificity of vocational training in clusters, amount of time spent on subjects in the cluster area, amount of career exploration, and so on. Still, the schools provide an indication of the feasibility and some of the benefits of this type of structure.

Business Week and the McGraw-Hill School Publishing Company, in collaboration with the National Center for Research in Vocational Education and the U. S. Department of Education Office of Vocational and Adult Education, recently honored ten American high schools that are "preparing students for college and careers." Case-study descriptions (*Business Week*/McGraw-Hill School Publishing Company, 1996) show that these schools have many features that reflect what we call the Talent Development approach, including opportunities to learn in the context of a career major or other special interest. However, as in the four high schools described by Grubb (1995), as in the California programs described by Stern, Raby, & Dayton (1992), and as in the 16 school-to-work programs examined by Pauly, Kopp, & Haimson (1995), substantial and numerous variations exist in how these ten schools actually set up and carry out their programs. Some of the schools are magnet high schools (e.g., specializing in agriculture, economics and finance, engineering and high tech science); others offer individualized career pathways, another has reorganized its occupational program into clusters that also have academic components. One high school in California that serves a diverse student population has organized into five academies — a Freshman Academy for ninth-graders, and four 10th-through-12th grade academies: Health Careers, Graphic Arts, Business Careers, and Career Exploration.

A Caring and Supportive Human Environment

Students must also be attached to their school in human terms, on a personal level. They need to perceive that their teachers care about them as individuals and believe that the education at their school will actively support their efforts to learn. A positive human relationship between teachers and individual students contributes to student learning. Students need to have the desire to earn the respect and praise of teachers. This can be a powerful source of social motivation when the student feels a close and positive association with the teacher. Moreover, a teacher often can serve as a more effective role model for a student learner after a positive relationship has been established.

There are several reasons why at-risk students may feel more socially estranged from their school and may be less likely to establish close positive relationships with their teachers. Social class and ethnic subgroup differences in childrearing practices and communication patterns can be a frequent source of misunderstanding or friction in teacher-student relations when the teacher is from white middle class origins and the student is not (Delpit, 1988). For example, student discipline problems can begin, or can become worse, due to teacher misreadings of the meaning or intentions of certain interchanges with individuals from different family backgrounds. Also, expectations of what is required for a good grade that are obvious to middle class students can be missed by other students due to social class differences in some subtleties of interpersonal communication.

Strong parent and community links to the school can help students feel a positive attachment to their own school and teachers. Students will often mirror the attitudes of the adults in their home and neighborhood, and teachers may often show more personal interest in students when they know the parents well. Again, at-risk students are more often deprived of the positive connections between home, community and school that can help lay the foundation for positive human attachments between the student and adults at school (Lightfoot, 1978).

The human climate can vary within a school, and at-risk students are more likely to be in the less selective programs and lower tracks. Here the norms of teacher caring are often weaker and the human climate more alienating (Oakes, 1985). Moreover, these students may more often be attending large schools with departmentalized staffing. Teachers in these schools have daily contact with large numbers of students and are likely to have positive relations only with students whose performance is outstanding (Powell, Farrar, & Cohen, 1985).

Students need to feel attached to school as a human community that recognizes their individuality and that cares about and supports their success. The need for positive human relationships between students and teachers and the climate of common purpose and support is emphasized in several studies of effective schools for at-risk students (Bidwell, 1987;

Coleman, 1987; Bryk & Driscoll, 1988; Lightfoot, 1978; Lipsitz, 1984) and is a key concept in recent models for secondary school improvement (Coalition for Essential Schools, 1985; National Association of Secondary School Principals/Carnegie Foundation In the Advancement of Teaching, 1996).

Most elementary schools are oriented toward positive adult-student relationships and remain small enough and undepartmentalized enough to maintain this orientation. But middle and high schools today often lack the desirable dimensions of a human community because of their large size and bureaucratic structure, the role definitions for teachers as subject-matter experts, the low level of involvement with students' families and communities, and the widespread tracking of students on the basis of academic preparation into different schools or programs and courses within schools. Each of these factors can be addressed by organizational and staffing innovations. However, it is important to analyze the alternatives in terms of the complex general issues of operating mass educational institutions with goals of both quality and equity in student outcomes. Three recurring issues concern staffing for quality instruction and positive human relations, grouping to meet the diversity of student needs and interests, and increasing parent and community involvement in students' education.

Alternatives to Departmentalization: Balancing Instructional Quality and Positive Teacher-Student Relations

Almost all American high schools use departmentalized staffing, in which each teacher specializes in a single subject and students receive daily instruction from several different teachers. This practice is just about universal in high schools and almost as common in the middle grades. It is often reinforced by certification regulations that stipulate that only specialized teachers can be used in the secondary grades. The reasoning is that the instructional content of each academic subject in the secondary grades requires teachers who are experts in the area. It is assumed that instruction will be of higher quality when teachers can take special pride in their subject-matter discipline and can concentrate on preparing a limited number of outstanding lessons each day that are offered to multiple classrooms.

Although research evidence supports some of the instructional benefits of departmentalized staffing (especially on the quality of instruction in science and history), the risk that many students will not encounter a positive human climate of caring and support has also been strongly documented (McPartland, 1990, 1991; Bryk, Lee, & Smith, 1990).

Positive teacher-student relations are made more difficult by departmentalized staffing in the typical large middle or high school for several reasons. In the earlier grades, teachers are likely to adopt a "student-orientation" where they take a broad view of the education of the

"whole class" and assume a personal responsibility for the success of each individual in their class. On the other hand, teachers in the departmentalized setting of later grades are more likely to take on a "subject-matter orientation" where they have a professional identity with others in their field and seek to maintain higher standards in their teaching and expectations for student performance. Too often the specialized teachers will fail students who do not meet their standards without feeling any personal need to go beyond providing traditional classroom instructional activities.

In addition, the logistics of student-teacher contacts in the departmentalized school make it difficult to provide the individual attention or close human relationships that many young adolescents need. A teacher who provides daily instruction to several different classes of students cannot get to know well the needs of each individual or to intervene with powerful individual programs for all who may need them. Students who change teachers for each period of the day will not relate to any of their teachers as strongly as they did in the elementary grades — when there was only one main adult in their classroom.

Thus departmentalized staffing is often a two-edged sword in the middle and high school years, with different implications for instructional quality and a caring human climate. The task of research and development is to identify, develop, and evaluate alternative arrangements that can help students adapt to different situations or balance the competing goals.

Some students' motivation to stay in school and work hard at classwork seems to be very responsive to the human climate of caring and support they feel from their teachers (Becker, 1987; Eccles & Midgley, 1989). "Alternative schools," which are usually much smaller and recruit staff with a stronger "student orientation" than the typical comprehensive high school, have been found to be effective with many students who would otherwise have dropped out (Wehlage et al, 1989; Gold & Mann, 1984; Glatthorn, 1975). Addressing the possible loss of instructional quality when specialized staffing is not extensive, some argue that certain students' motivation is so tightly tied to their relations with teachers that they actually achieve more with fewer less-specialized teachers (Bryk, Lee, & Smith, 1990; Becker, 1987). Thus, in addition to attempts to reduce the size of inner-city middle and high schools (through several smaller "school-within-a-school" administrative units in a large building), research needs to examine how departmentalized staffing could be limited and phased in secondary schools that serve at-risk youth. This means semi-departmentalized arrangements that use only two or three different teachers covering all subjects for each student, especially in early secondary grades and the first grades after transition into middle school or high school.

The more common way to offset the negative impacts of departmentalized staffing is to implement strong programs of interdisciplinary teacher teaming with specific advisory functions. Teams of four teachers cover each of the major subjects. They share the same four classrooms of students, with regularly scheduled team time to address individual student needs.

Each adult team member has a homeroom-advisory subgroup of special responsibilities. During the team periods, teachers identify students needing special attention and follow through by providing extra help and by coordinating problem solving approaches with the home. During advisory periods, teachers establish individual relationships with students for guidance and support and lead classroom sessions on student problems and responsibilities. A special case of teams and/or advisors that remain together with the same students for multiple years has sometimes been recommended for certain situations or student needs.

Unfortunately, national data do not show widespread use of promising practices such as alternative schools, semi-departmentalization, and interdisciplinary teams and advisors with scheduled time even in the middle grades (Epstein & Mac Iver, 1990; Mac Iver, 1990). The likelihood of their use in high schools is probably much less, due to the strong tradition of subject-matter departmental organization in high schools.

Alternatives to Tracking: Meeting the Diversity of Student Needs

American students are routinely separated into different schools or into different programs or courses within schools. This may be done to service different student interests, but it usually occurs in response to existing student differences in prior preparation. Separate selective schools exist in many districts at the high school level and sometimes in the middle grades. They are attended by students who can pass more stringent entrance requirements, while the remaining students enroll in schools defined by neighborhood attendance boundaries (Moore & Davenport, 1990).

At both middle and high school levels, students are placed in differentiated programs and/or courses by their level of recent academic performance determined by test grades or teacher judgment. High school programs are often labeled college-preparatory or academic, general, and vocational-technical, each having separate courses and requirements. Middle schools often have advanced academic or gifted and talented programs separate from regular and special education programs. Within high schools and middle schools, further separation occurs through track levels in each course — for example, in a school with ten ninth-grade classes, some students may take a demanding algebra course while others take watered-down business math courses. Even those students in algebra would be further assigned to separate course track sections, depending upon their prior achievement scores.

Strong evidence exists that the learning environments in the less selective programs and lower tracks are much weaker. Students in these tracks rarely grow enough academically to move to higher levels (Braddock, 1990; Oakes & Lipton, 1990; Gamoran, 1987; Slavin, 1987). The lower level learning environments are weaker because they are infrequently chosen by

experienced teachers with seniority rights, they are stigmatized by low expectations of teachers and students, and they spend more time on activities that detract from serious learning.

The requirement of a common curriculum and the abolition of tracking in the middle and high school grades is regularly recommended by school reformers, including recent national commissions on the middle grades (Carnegie Task Force, 1989) and high schools (Quality Education for Minorities Project, 1990; NASSP/Carnegie, 1996). However, tracking is the major approach to deal with student diversity in academic skills and interests. It should be analyzed in terms of the need to accommodate instruction to student differences and other ways of doing so when necessary. Before settling on abolition of tracking as the one and only best approach for disadvantaged students, it is useful to investigate how student diversity can otherwise be taken into account in non-tracked heterogeneous classes. We also need to consider how regrouping of students can be combined with other reallocations of resources to actually benefit at-risk students.

Improvements of three key categories of the learning environment may be necessary to make heterogeneously grouped classes work well: materials that are suited to students' different incoming skills, evaluation standards for strong incentives to learn, and individual activities for students at the extremes of the distribution of course mastery. Although some research evidence is available that each of these improvements can be made, much more needs to be learned about the degree of accommodation needed in different subjects and effects compared to other alternatives to tracking.

Materials suited to skills. Most middle and high school courses are built on some assumptions of prior preparation. These include specific prerequisite skills in a sequential subject such as mathematics, or general basic competencies such as reading comprehension skills for social studies or history courses. Special materials may help to neutralize the disadvantages for learning new course material of students with weaker prior preparations. For example, history materials covering the same history units have been written at different reading levels, so group instruction can proceed for the entire class while students handle reading assignments targeted to their current abilities (Epstein & Salinas, 1991; The Civic Achievement Award Program, n.d.). Providing hand-held calculators in mathematics classes may permit all students to move on to topics in algebra and problem solving, including individuals who would otherwise still struggle with arithmetic tasks involving fractions or percents. Students who have weak expository writing skills may be allowed to demonstrate their competencies in knowledge and critical reasoning for social studies and history courses through oral presentations supported by outlines and references.

Evaluation standards to provide incentives to learn. Grades in most American schools depend largely upon a student's relative standing among his or her classmates. The level of competition will be stiffer for at-risk students in untracked heterogeneous classes than in lower

track classes, where other students enter the course at about the same level of preparation. In addition, doing away with homogeneous grouping might create a "frog pond" effect that depresses some at-risk students' self-confidence and educational aspirations due to their lower class ranking among the more heterogeneous classmates. However, it is possible to alter the criteria for classroom success by adding credit for improvements over one's own starting point. As we noted earlier, recent middle school research indicates that programs to add recognition for personal academic growth are practical and produce higher levels of student academic motivation and satisfaction in these classrooms (Mac Iver, 1991).

Activities that engage all students. Finally, concern exists that students at each end of the distribution (the high achievers and the low achievers) in non-tracked classes will feel ignored and uninvolved in untracked classes because group-based instruction will be aimed at the average student and be too hard for some and too easy for others. But research also suggests that roles can be structured in group-paced heterogeneous classes that engage all students in learning activities. Long-standing methods for providing individualized enrichment activities ("extra credit") to top students can be routinized to address diverse needs. For example, cooperative learning methods that encourage peer tutoring for group incentives but that require individual accountability for formal grades have been shown to capitalize on classroom diversity, providing strong incentives both for students who are advanced and those who are behind (Slavin, 1983, 1990).

More work is needed to elaborate and disseminate the methods to make untracked classes work well. Various techniques are now available to modify classroom materials, evaluation processes, and instructional activities to suit the range of abilities and interests in most mixed classes. However, the full specification, elaboration, and evaluation of these techniques still requires much work. There may be occasions when regrouping can be beneficial to disadvantaged students when combined with other resources. Too often, tracking involves a student's entire program, even though the student's assignment is based on a single general assessment of prior academic preparation. It establishes the most homogeneous levels possible without setting instruction to match, fails to concentrate the best resources where they are most needed, offers little flexibility of reassignments, and gives no choice or incentive to participants to motivate extra effort. Grouping may be used to deal with student diversity without any of these shortcomings.

Instead of tracking a student's entire program, grouping may be used in only one or two subjects, based on separate evaluations in each area. The rest of the student's program is regrouped or occurs in non-tracked heterogeneous classes. For example, regrouping in mathematics only may be advantageous. Some schools are able to schedule most of their mathematics faculty so they are teaching the same grade at the same period, which allows great flexibility in continuously regrouping students for math instruction throughout the year.

Instead of trying to fine-tune track assignments into the most homogeneous groupings — such as assigning students into separate math classes in strict order of their test performance — some schools use broad band groupings to provide homogeneity only for students at the extremes and non-tracking for the rest. For example, a ten-class grade could have one advanced class, one "accelerated" class to "catch up," and the rest randomly assigned. When the "catch up" class is given extra resources — such as the best teacher, smaller size, and instructional aides — it may give students a boost over the term to accelerate their performance closer to grade level.

Instead of making classes for students who are behind into a cause for stigma, it is possible to allow students a choice in the assignment and to create a climate for pride and growth (Triesman, 1985; Ascher, 1991). Similarly, allowing students to choose among challenging courses that provide extra help may attract new student commitments to work hard in courses where they perceive themselves to be most interested or most talented.

Research indicates that the weakening or destruction of a positive learning environment through tracking of at-risk students is unnecessary. We can make untracked classes work well for all students and we can restrict tracking to a limited set of courses and students with special programs to benefit any homogeneous groupings that are used. Alternatives to tracking will require changes in current external conditions (e.g., providing the best and most experienced teachers with other direct incentives to replace their automatic prerogative of high track placement; providing additional resources to permit accelerated learning when students who are far behind need special homogeneous classes).

Connections with Families and Communities

The human networks to support at-risk students' schooling must include family and community members. Most high school administrators, teachers, and staff make some disparate attempts to read these families and communities. However, the potential exists to form much more coherent and stronger school-family-community partnerships (Connors & Epstein, 1994; Dornbusch & Ritter, 1988; Epstein & Connors, 1995).

There are often barriers to overcome with family members who are not comfortable with school officials, or whose personal schedules prevent visits with teachers during the regular school day (Lightfoot, 1978). Nevertheless, educators can make positive connections with the home that will almost always be responded to well by the adult members (Davies, 1991; Epstein, 1986). These connections may be specific, such as helping with schoolwork at home, supporting activities at the school, or working with teachers by using home-based reinforcers to improve a students' attendance or other school behaviors (Witt, Hanafin, & Martens, 1983).

Each of these techniques requires extra staff training and resources, but can pay off with increased student success at school (Epstein, 1991).

Similarly, a student's community is a resource for motivation and support, but requires organization and management skills to be useful. Research shows that adult mentors from the community working with individual disadvantaged youngsters can make a difference in improved school attendance and grades, but only when the program is well run and focused (McPartland & Nettles, 1991). Also, school activities built around student service to their community can be excellent motivating experiences for improved schoolwork, and may also help in character development (Newmann & Rutter, 1985-86).

Opportunities for Success in School

Students placed at risk often face special circumstances of poor prior preparations, weak continuing support at home for academic tasks, and negative peer pressures. These factors may deprive them of decent opportunities to achieve immediate rewards for schoolwork under the usual ways that schools structure the criteria and competition for academic success and track students into classes by achievement levels. At-risk students are likely to be below average in prior preparation for learning tasks because poor families lack the resources to build a foundation of reading and academic skills. This is in contrast to middle-class students, who benefit from college-educated parents, middle-class home possessions, and early education investments.

The contrasts can be dramatic even at the beginning of first grade. Many students from poor families are struggling with limited vocabularies and a weak sense of the functions of printed materials, while many students from upper socio-economic backgrounds are already well on their way to basic reading competencies. The different capacities of poor and wealthy homes to support students' learning activities continues through the elementary and middle grades and may be especially acute by the time these students reach high school. Students from deprived backgrounds may not have a quiet place at home to study, while well-to-do students will often have not only a quiet place but also home libraries and computers to support their learning activities. Although parents who are not well-educated can give strong emotional support to the importance of education for their children, they will not have the academic strengths to help with homework as students progress through the grade levels to more challenging courses, especially their high school courses.

In addition, peers can be a particular negative distraction from academic work for many at-risk minority students, especially at the middle and high school grades. Some case studies have suggested that in some African-American adolescent peer groups, good students are put

down by their fellow students as "acting white." This can be a very powerful discouragement to further efforts at schoolwork (Ogbu, 1985; Fordham & Ogbu, 1986).

Many common school practices exacerbate the barriers to success in school faced by youngsters placed at risk. Specific changes in the social organization of schools are needed to provide new opportunities for success. Changes in school organization, curriculum, and instruction are necessary in three areas to provide high school students placed at risk with the opportunity to succeed in school. These include the provision of extra assistance when it is needed, the development of new opportunities for success, and the development of alternatives to retention.

Extra help when it is needed in middle and high school grades. High school students who are at risk can be successful if they receive extra help and encouragement when they are having trouble with their learning tasks. Research has identified a variety of approaches for remedial extra help in the middle grades that produce fewer course failures and grade retentions (Mac Iver & Epstein, 1991). These approaches can be extended into high school environments. The critical practical issues are how to allocate and schedule resources to effectively provide extra academic help and how to make the activities attractive and motivating to students who are at risk.

Some at-risk students may be reluctant to accept extra help from teachers or peers because they feel embarrassed or stigmatized by being assigned to "remedial" classes. Some case studies in college settings indicate the social climate can be carefully defined in extra help classes to overcome initial reluctance of some students to participate (Treisman, 1985).

New opportunities for success. High schools can find better ways to recognize student academic success when it occurs. Recent research indicates that methods to measure and reward individual students' growth and improvement are practical and have strong effects on student motivation and teachers' positive expectations for at-risk learners (Mac Iver & Reumann, 1993).

The idea of giving recognition to students for "effort" or "improvement" is not new in education, but the typical approach is for teachers to add a subjective rating on these factors at report card time. Research suggests that teachers hardly ever give high subjective ratings to students who are well below class average in absolute performance (Salganik & Epstein, 1982). Moreover, even if some below-average students do get recognized for effort or improvement, the report card is not issued frequently enough to give them a motivational boost. This is especially true when the positive messages are accompanied by low grades.

New methods based on objective scoring of improvement points on weekly tests or on monthly reports have been found to overcome these practical problems of teacher resistance and frequency of student reinforcement. These methods establish a personal test score baseline for each student from a moving average of recent test scores. The student needs to exceed this

baseline to receive improvement points. These points are awarded regularly (usually weekly) and accompanied by various rewards and recognitions (such as certificates, buttons, or messages to take home). These methods help teachers become aware of the learning potential of below-average students, and motivate students to try hard in class to earn positive recognitions that are now within their grasp. Results from carefully designed experiments show that students in the "incentives-for-improvement" program feel more positive toward their classes and are more willing to work hard in class. These changes result in better conventional grades at report card time for the below average student and ten percent fewer course failures (Mac Iver & Reumann, 1993). Significantly, these approaches are especially effective with African-American and other adolescent males.

Further research and development is needed to extend these approaches to include additional objective methods to reward improvements (e.g., revisions of written work, retaking tests with equivalent items) and new ways to use the improvement points from weekly tests and monthly reports to add information at report card time. In a recent demonstration project at a high school, report cards were issued every four-and-one-half weeks that included improvement grades based on achievement gains from the previous report card (McPartland et al., 1996). This approach was simple in its calculations and record-keeping, but seemed to have beneficial effects on student motivation and teacher expectations.

Another set of approaches to open new opportunities for academic success is to find multiple modes through which students may demonstrate their competencies outside of the usual test-taking methodologies. Sometimes, these strategies are part of an overall movement to get away from the fragmented curriculum driven by the usual multiple-choice tests of disconnected facts or formulas. For example, in the Coalition of Essential Schools model developed by Theodore Sizer, students demonstrate their learning accomplishments through projects that allow them to show their knowledge and skills through a variety of modes of presentation. The projects that students undertake can be expected to be much more motivating than getting ready for the usual test. In addition, at-risk students who know the material but are not good at taking tests would be prime beneficiaries of these changes.

Changes in high school organization may also be part of reforming the way students progress through school. The system of earning Carnegie units based on attending required courses that meet for specified amounts of time could be replaced by a performance-based system. Students can earn progress to the next level by demonstrating their mastery regardless of the class-time spent on the course area. But performance-based reforms must await major new assessment tools and organizational innovations that would allow students to progress at different rates through a mass education system. Moreover, the potential benefits and costs in educational opportunities for at-risk students are unknown.

Overall, we need to find better ways to motivate high school students who are below average in current performance to nonetheless work hard in class. Their good work needs to be recognized even when it does not beat the class mean. It needs to be recognized when it is demonstrated in ways other than the conventional paper and pencil test. An array of methods are now available that give new opportunities for success to at-risk students. However, most have been used only in isolated experimental locations; they require more extensive research and development before they can or will be used commonly in high schools.

Alternatives to grade retentions. At-risk students are frequently left back to repeat a grade in American schools. This is more likely to lead to a higher probability of dropping out than to any benefits in students' education. Retention in grade is especially problematic at the ninth-grade level in high schools. Many ninth-grade at-risk students have yet not achieved the minimum requirements in basic courses that are prerequisite to the next topics in the area, and their attendance rates fall far below minimum standards.

Again, a variety of experimental programs exist to help students recover from course failures without grade retentions that should be considered for wider dissemination. "Bridging classes" is one approach that withholds promotion to the next grade until students make up deficiencies, but gives failing students intensive extra help to catch up in the next term and to earn a delayed promotion to the same grade as their age-mates. For example, high school students who failed multiple classes in ninth grade would not yet be promoted. Instead, they would be assigned to a bridging class in which they could earn promotion to grade ten by the end of the next term. They would then be back in step with their classmates who had already been promoted. Often, bridging classes include extra resources (smaller class size, smaller teacher team size) and concentrate class time on basic skills courses in reading and mathematics. Bridging classes also frequently use detailed point systems or individual contracts for students to maintain specific attendance and homework requirements for passing grades and give individual attention to specific skill deficiencies of each student. Sometimes, summer school classes precede the bridging class term to give additional attention to students' learning needs.

Doing away with grade retentions as a method for dealing with student diversity does *not* mean adopting a policy of social promotions and lower standards. Under alternatives for recovery, standards remain high and students do not earn promotion until those standards are met.

Help with Personal Problems

Students need to be free of serious personal problems that get in their way as they seek to fulfill their student role and attend to their school learning responsibilities. The range of problems includes debilitating physical or mental conditions (which prevent normal school behaviors); teenage motherhood (which requires special services for student education to continue); substance abuse or dependency of varying severity (which impedes proper classroom attention), and unusual home responsibilities or family difficulties (which pull students away from their school program). Lack of effective previous socialization in dealing with the discipline standards of high schools will also stand in the way of a student's success in school.

At-risk students are much more likely to come from home and neighborhood environments that expose them to such personal problems. Community conditions of high unemployment, violence, crime, and easily available drugs are constant threats to youth in the area. These conditions often lead to problems at home that seriously detract from students' efforts at school. Local youth are also prey to the drug culture that is active in their community. Rates of teenage pregnancies outside of marriage are highest in high poverty areas, especially to disadvantaged youth who are not doing well in school. Too often, a combination of these factors overwhelms any realistic chance that at-risk youth can attend to their educational responsibilities. Their motivation for schoolwork is distracted by continuing concerns with personal problems or replaced by counterproductive motivations from involvement in local conditions of drugs and crime.

Schools can effectively provide support for students with serious personal problems in a number of ways, including coordination with health and human service professionals, establishment of alternative high school programs, alternatives to disciplinary removals and special education placements, and the use of advocates and mentors.

Service Delivery

Providing services directly or "referring students" to professional experts for help is one direction taken by schools. Some high school dropout prevention approaches concentrate most on assistance to students with such outside-of-school problems (Orr, 1987: 149-163).

Much attention has been and continues to be focused on how family support and mental health services can be closely integrated with school programs (Comer, 1988; Cooper, Munger, & Ravilin, 1980; Dolan, 1992; Dryfoos, 1994; Kusserow, 1991a, 1991b; Lorian, Work, & Hightower, 1984) or made accessible to students from centers closely linked to schools (New Jersey Department of Human Services, 1990; Melaville & Blank, 1993).

Alternative Programs

Unconventional high school programs that accommodate to outside factors in a student's life are another necessary way to make it possible for certain individuals to continue with their education. Flexible schedules to allow older students to work and on-site services to permit young mothers to continue their education are examples of successful alternative programs.

Alternatives to Disciplinary Removals and Special Education Placements

Disadvantaged students often have "discipline" problems in school that have dire effects on their educational progress. Suspensions and special education placements are too often used to get rid of problem students. Instead, proven methods are available to provide such students with better coping skills to meet classroom demands, often in combination with a program of home-based reinforcers coordinated with family members (Witt, Hannafin, & Martens, 1983). But these approaches take time, individual attention, new expenditures, and staff training.

Alternative Schools

There are a number of highly at-risk students in most urban high schools. These students may never have had any positive reinforcement from their school. They may have been retained at least once, lack confidence in their cognitive abilities, suffer low motivation and self-esteem, and have conceded the battle to excel in school. Instead of receiving support, trust, and challenge from their teachers and classmates, these students are often ostracized, ridiculed, pitied, or feared. For these at-risk adolescents, there is a dangerous incompatibility between school mandates and expectations, on the one hand, and their own lifestyles beyond school on the other (Jordan, 1994).

According to Gold & Mann (1983), many adolescents will not and can not adjust to the traditional organization of schools, even when they have progressed as far as secondary school. For a complex array of social and psychological reasons, these students refuse to do homework, are frequently absent or inattentive when they do show up, and disrupt the work of other students.

Alternative schooling can provide a plausible way to improve the opportunities for success of these students. Raywid (1994) cites the features that enable alternative schools to better serve these students: smaller size, fewer specialized staff, administrative autonomy, teachers as head administrators, and continuity in leadership. In addition to providing instruction in the core academic subjects, teachers also advise and counsel students in a warm, supportive atmosphere.

Wehlage and his colleagues (1989) argue that alternative schools offer the possibility of responding directly to students who might have been unsuccessful in traditional schools and provide opportunities for educators to invent a "better way" of addressing youth problems.

The mission of early alternative schools was typically reformatory in nature, serving mainly as centers for delinquent and truant boys who were deemed unmanageable by traditional schools (Gold & Mann, 1983). The aim of most alternative schools was not to mainstream their students, nor to reengage them in regular public schools. Instead, alternative schools offered a separate and different path through adolescence and early adulthood for their students.

Although this mission continues to exist today, alternative schools now cast a wider net, including programs designed for adolescents who are parents, who are pregnant, or who fall into other categories which place them at risk of school failure. Contemporary alternative schools take many forms, corresponding to their missions and goals. They range from completely separate schools, to schools-within-a-school, to satellite or annex schools, to schools without walls, to evening schools, to other models (Young, 1990). Some alternative schools also have as their mission to develop new coping skills and to close academic gaps in their students so they can return and function well in a normal school environment. The Twilight School in the CRESPAR Talent Development Model addresses this mission.

Summary

We need to replace the practices and structures that now are barriers to the education of students placed at risk with alternatives that will make the learning environment more motivating for students and teachers alike to do their best work. Research and development activities have identified some promising changes to be made and alternatives to be implemented. We are integrating these approaches into a coherent model of high school reform — the Talent Development High School — based on the proposition that all students can succeed in school given appropriate school organization, curriculum, and instruction and assistance as needed to assure their success.

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